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The chief purpose of this publication is to distribute information on aeronautics to the flying personnel in the Regular Army, Reserve Corps, National Guard, and others connected with aviation.

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THE AIR FORCE CRUCIBLE

THAT we should be able to employ instantly and effectively a concentrated and coordinated unit, embracing all our combat air strength in the continental United States, has been accepted by most students of air defense for many years. The general acceptance of this doctrine finally resulted in a decision to organize such a unit.

On March 1st, 1935, the headquarters of this new unit, the GHQ Air Force, began to function. This did not mean that the organization of the unit above described was completed. In fact, it was barely begun. And although much has been accomplished in the last three and a half months toward carrying forward the organization of our great "striking force" of the air, by far the greater progress has been made in visualizing the many steps that remain to be taken and the numerous problems still to be solved before we can have a completed organization - an Air Force instantly available for effective operations in any strategic area of continental United States.

The values of these two important terms are relative. What is meant by "instantly available" and "effective operations" as applied to an air force? One definition might be as stated below. To be considered "instantly available" an air unit should be able to fulfil the three following conditions:

a. Take off with all its airplanes from its home station within forty-eight hours of receipt of the order.

b. Fly to the designated concentration area at cruising speed, with minimum stop-overs for fuel and oil, at such intervals as are dictated by the range of the planes.

c. Take off to perform a normal operating mission against the enemy within twenty-four hours after arrival within the concentration area.

To "operate effectively" may be defined as being able to accomplish the assigned mission with at least the average results which either training or war experience has indicated to be practicable for the particular type of unit involved.

To reach the above objectives for every bombardment, attack, pursuit and long range observation squadron now authorized for the GHQ Air Force presents such a variety of included objectives as to form an adequate task for a large section of the offices of the Chief of Ordnance, Chief of Engineers, Chief Signal Officer and the Quartermaster General, respectively.

The powers and limitations of the Air Force, as one experienced Air Corps officer observed, has been a frequently used term in which all the emphasis to date has been placed upon the "powers" and little or none upon the "limitations." Among the first of the powers which come to mind is mobility. And the Air Force units are truly mobile, once they are in the air with a full load of gasoline and oil and with all equipment functioning perfectly. But the limitations of mobility are suggested above. Can the planes be gotten into the air in this condition to demonstrate their mobility in a reasonable length of time? If not, the true mobility of the unit must be measured by the inclusion of the period of preparation required.

Another one of the powers of aviation which looms large is its "fire power," especially in terms of bombs. But factors limiting these powers are availability at the operating airdrome of an adequate supply of bombs of suitable sizes, presence of trained men to fuze and load these bombs ready for dropping, and of other trained personnel unerringly to conduct the airplanes to the proper release point for the bombs to hit the intended objective and to release them at such point.

A well known factor in overcoming enemy resistance is the maintaining of pressure beyond the power of the foe to overcome by the exertion of his maximum recuperative powers. Unless, therefore, the limitations of an air force permit the repetition of missions at sufficiently frequent intervals to afford the requisite amount of pressure, the powers of that air force will be largely nullified. The enemy will recuperate between blows and be able to withstand each succeeding blow.

The application and development of all these principles of operation are now a direct responsibility of the GHQ Air Force. The operating technique and doctrines to be followed by an air force

in action against various types of objectives and in varying situations must now be formulated authoritatively and promulgated to the Air Force personnel.

Problems of organization are numerous and pressing. Of prime importance among these is a determination of the most advantageous proportions of the various classes of aviation. The "Drum Board" report of October, 1933, is the latest approved statement of the proportions of the various classes of aviation within the Air Force. The continued study of this problem is essential, since the values of the factors upon which the determination should be based are constantly changing. Some of these factors are:

1. The "fire power" or destructive effect of each class against various kinds of targets.
2. The relative supply and operating requirements of the various classes of aviation and the difficulties of meeting such requirements.
3. The relative time required to train replacement personnel to operate the various classes of airplanes.
4. The probable targets of aviation as affecting the provision of the needed amount of each class to attack such targets. In connection with this factor it may be stated that heavy bombardment, because of time for replacement factor, ammunition expenditure factor, and relative vulnerability to fire directed against the airplane itself, should not be employed against targets which can be destroyed or neutralized by smaller bombs which can be carried by lighter airplanes. Nor should long range bombers be used against targets close at hand or which can be brought to short operating ranges.

The tactics of bombardment aviation with reference to the use of short or long lines of operation, i.e., distance from home airdrome to target, offer an engrossing problem for study. Economy of effort and in the consumption of supplies dictates the use of short lines of operation as far as practicable. Security of airdromes and of the airplanes while on the airdromes indicates the use of long lines of operation, which will remove the home airdrome of the operating units to a great distance from the bases of enemy planes.

The use of short lines of operation involves, from considerations of security, the wide dispersion of units on numerous airdromes separated from each other by a number of miles. This dispersion, in turn, involves increased difficulties in control and in the supply of the units. In areas where there are insufficient airdromes it also involves delay in building the needed airdromes. However, it may be possible to have these airdromes (airports) built and ready when the need comes, providing the required cooperation is had with the various States concerned, to the end that Federal funds allocated to them may be used in part for this purpose.

The great advantages of short lines of operation from dispersed airdromes over long lines of operation from large airdromes well in the rear may be expected to be derived from the use of ground transportation instead of air transportation for a great part of the distance involved, and the use of more easily trained ground personnel for a large volume of the work incident to the operation in lieu of the more highly trained flying personnel in the airplanes.

The first directive given to the GHQ Air Force by the War Department was the test of tentative tables of organization for the included units of the Air Force. This is a vital problem, and its correct solution is basic in establishing the ground work for success of the Air Force. The tentative tables undergoing test are a radical departure from all previous tables for Air Corps units, as well as from the present approved tables of all other arms of the Service. As such they will require the careful analysis and test of actual practice which it is always advisable to give to something so entirely new, and at the same time so vital to successful operations in war.

Only one of these new tables will be considered, that for the Service Squadron. The table for the Service Squadron provides for one hundred and ninety enlisted men in the various grades and ratings, and possessing the various specialist qualifications needed to perform the varied duties falling upon this unit. These duties include for the present, in the absence of any other provision for taking care of them, everything concerned with the operation of three combat squadrons in the field except the actual airdrome servicing and maintenance of the airplanes and their operation in flight. The original concept was that these service squadrons would be interchangeable for any class of unit. This has now been modified, due to the hopelessness of training replacements in war time qualified to handle the widely differing duties connected with servicing any one of the different classes of aviation. Another consideration was the great variation in the work load as between servicing three heavy bombardment squadrons and three single place pursuit squadrons. The table as originally prepared did not provide three identical sections, one for each tactical squadron for a condition where each of the three tactical squadrons served is located on a different airdrome under a situation requiring a dispersed operating basis. In addition there probably will be required a self-service section to take care of the headquarters and administra-

tive personnel of the service squadron itself.

It is believed the above is sufficient to indicate the extent and complexity of the problems facing the GHQ Air Force. The War Department appears to be alive to these problems and to the need for affording every possible aid to the Air Force in order that wise solutions may be reached. One of these aids has been given by the War Department in according rank commensurate with the duties performed. The insignia of this new rank is in the Air Force Crucible along with the wonderful ingredients - youth, energy and opportunity. We shall all await with kindest interest and best wishes for success the product which shall emerge.

Meanwhile, a few catalytics for the boiling pot may be offered. What does the United States desire its military airplanes to do?

The National Defense Act and other legislation indicates that it is the will of the Congress that our military policy shall be one of impregnable defense. It may be assumed with assurance, therefore, that our military planes should be able to protect us from possible enemy airplanes. To harm us seriously, hostile airplanes, flying from a final land base, must fly over many miles of our own relatively unimportant territory in which there are no remunerative targets, in order to reach vital objectives. If our own airplanes operate from advanced airdromes they will be able to employ much shorter lines of operation than the hostile planes.

From dispersed airdromes close up to our land frontier, our airplanes can reach the enemy planes on the ground at the base from which they make their final take-off to attack remunerative targets at considerable distances within the interior ofour country. To destroy airplanes on the ground does not require heavy bombs. Light bombers with the necessary range (which can be half or less than half of the enemy bombers) may be reasonably expected successfully to stop enemy air attacks by destroying the hostile airplanes on the ground.

In the case of an attack from the sea, the hostile airplanes must base on aircraft carriers. The limitations of carrier take-off preclude the use of especially heavy bombers, and hence of especially long range bombers. Therefore, to make the airplane attacks, the hostile carriers must come fairly close to shore and at time of take-off and landing of their planes will be well within the reach of light bombers, which need carry only very light bombs to destroy hostile planes on the carrier decks or to put the deck itself out of commission.

Airplanes operating from land bases against carrier-based airplanes have the following advantages over the latter:

a. They can take off and land in formations as against single ship take-offs and landings, affording a tremendous saving in the time factor.

b. Their flying fields are far less vulnerable to damage than flying decks, and they can have alternate flying fields to use in case primary fields are damaged.

c. If defeated, they can withdraw and disperse to numerous landing fields, while if carrier-based planes are defeated in the air, they face annihilation on the carrier or capture if they land in hostile territory.

d. Their opportunities for information are greater, due to more numerous observation points.

Their disadvantages lie in the ability of the carrier-based planes to select their time of attack, which is known to them and unknown to the shore-based airplanes; and the position of the carrier is movable while that of the targets of its airplanes is fixed.

The Air Force Crucible must melt all conflicting tactical doctrines and methods into one integrated whole. The doctrines must be adapted to the purposes for which the Air Force has been created.

Truly this is a difficult task, which should enlist the earnest aid of all concerned in reaching a correct solution.

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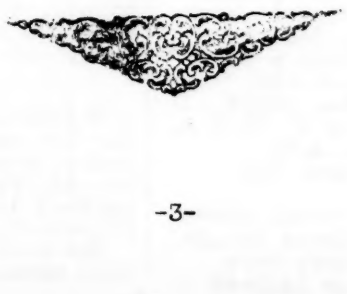

7TH BOMBARDMENT GROUP IN WAR MANEUVERS

Brigadier-General Henry H. Arnold, Air Corps, Commander of the First Wing, GHQ Air Force, inspected the war maneuvers of the 7th Bombardment Group as it sweltered in heat which registered 80 degrees in the shade of their tents.

Dispersion and concentration problems occupied the time of the flying personnel each morning. Extreme secrecy cloaked the point of concentration, which was given out by radio by Lieut.-Colonel Clarence L. Tinker, Commanding Officer of the Group, from his command plane, the Bird O'Prey. Then, as the message was transmitted to the 9th Bombardment Squadron at Mills Field, San Francisco; the 11th at Stockton, and the 31st at Suisun, all flew to the focal point at different rates of speed so as to arrive there at the same time. One of the concentrations was held over beautiful Lake Tahoe.

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SACRAMENTO CORDIALLY GREETS ARMY AIRMEN

Hamilton Field personnel are highly appreciative of the enthusiastic reception accorded them by the civilian population of Sacramento on the occasion of the recent field maneuvers over Mather Field, which is 11 miles distant from that city.

Lieut.-Colonel Clarence L. Tinker, formerly commanding the 20th Pursuit Group at Mather Field, has many friends among the townspeople. Many of them expressed the hope that Mather Field might again become a permanent Air Corps post.

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DISTRESSING ACCIDENT DURING MANEUVERS

Death rode in the air with the 7th Bombardment Group from Hamilton Field as it engaged in war maneuvers under the leadership of Lieut.-Colonel C.L. Tinker, with Mather Field as a base, during the period from May 20th to May 30th, last.

Second Lieutenant Edgar W. Root, Air Reserve, plunged to death about 15 miles west of Mt. Whitney in Clover Creek, which is in the vicinity of Sequoia National Park. He was piloting a Martin Bomber over which he lost control, and dropped 14,000 feet in a spiral spin. The plane struck a tree and burst into flames. Those who succumbed, in addition to the pilot, were Private, 1st Class, Guy F. Porter, radio operator; and Messrs. A.P. Alexander and Lewis S. Tappan, Fox Movie reel cameramen.

Lieut. Root and Private Porter were members of the 31st Bombardment Squadron, and with 15 other Bombers were flying over Mt. Whitney, the highest point within the continental limits of the United States, in a war problem.

Only a few months ago, Lieut. Root married Miss Maxine Duffy, whom he had met as a cadet in San Antonio, Texas. At the time of the accident she was living in the quarters assigned this couple at Hamilton Field. Mrs. Root took the remains of her husband to the home of his father, Mr. V.S. Root, at Huntsville, Alabama.

Lieut. Root graduated in 1928 from the Alabama Polytechnic Institute. Appointed a flying cadet, he graduated from the Air Corps Training Center in 1934. He received his commission as a second lieutenant in the Air Reserve on February 28, 1935.

Private Porter is survived by a sister, Mrs. Stella Buck, of Eddyville, Nebraska, to whom the remains were shipped for burial. He was a veteran radio operator with 12 years of service in the Army.

Major Harold D. Smith, commanding the 31st Bombardment Squadron, and an eye witness of the accident, stated that he believed the rear controls of the Bomber were jammed by one of the news reel men falling against them.

Messrs. Alexander and Tappan, Fox technicians, were veterans in the news reel field. At one time they were engaged in taking air photographs in the Orient. They were widely known in movie news reel circles.

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AERIAL SURVEY OF FORT BRAGG RESERVATION

The Second Photo Section, Langley Field, Va., has just completed an aerial survey of the Fort Bragg Reservation for the Corps of Engineers. This survey was made with a 5-lens mapping camera at an altitude of 20,000 feet. This is an unusually high altitude for aerial mapping, and it necessitated the use of oxygen breathing apparatus by the pilot and photographer. At an altitude of 20,000 feet the camera used in this survey will photograph an area of 428.49 square miles with one exposure.

An aerial survey of the territory from Hampton Roads, Va., to the Neuse River, North Carolina, is in process at the present time, being made for the Coast and Geodetic Survey, who will use the photographs to establish intermediate control points between their known control points, thus eliminating the necessity of detailed survey by the ground survey party.

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Representative Wilcox's bill, authorizing the construction of strategic air bases to provide peace-time training for the Air Force and war-time defense against invasion, passed the House of Representatives on June 5th.

Not a single amendment was proposed to this measure as it was sent to the Senate.

ITEMS FROM AIR FORCE BULLETINS

The following items have been published to the personnel of the GHQ Air Force from time to time through the medium of Air Force Bulletins issued by the Air Force Headquarters:

The realization that the Air Corps was not organized to permit the use in war of its tremendous striking power to the best advantage led the War Department to create the GHQ Air Force. Under this organization, the tactical command of the Air Force units, formerly divided among the various Corps Area Commanders, is now centralized under the Commanding General, The General Headquarters Air Force. Its war mission will be to conduct offensive air operations against enemy air, ground and sea forces. The execution of these operations will require, according to circumstances, independent air missions or missions in conjunction with friendly ground or naval forces. The functions of the Chief of the Air Corps remain substantially as heretofore.

The GHQ Air Force Strongly Supported.

The GHQ Air Force has the whole power and authority of the War Department behind it. The Chief of Staff, appearing before the proper committees of Congress, has urged that funds be appropriated to procure the full number of 2320 airplanes and corollary accessory equipment recommended by the Special War Department Committee headed by the Hon. Newton D. Baker, the war-time Secretary of War. He has also asked for additional regular officers, enlisted men, Reserve officers and flying cadets. Congress and the President appear sympathetic, and real progress seems to be in sight.

The Concept of the GHQ Air Force.

The whole concept underlying the GHQ Air Force is that of a highly mobile force of great striking power. Like any of the Four Armies, it is directly under the Chief of Staff in time of peace and under the Commander of the Field Forces in time of war. All plans, equipment and training will be based upon the concept of mobility. More and more flying will be expected of the GHQ Air Force units. Field exercises and maneuvers will be held more often, but the actual number of airplanes will be small for some time to come. It will require time for these plans to reach their maximum application, for we are not only short of airplanes and accessory equipment, but also of personnel.

GHQ AIR FORCE AN M DAY FORCE

The GHQ Air Force has been created upon the principle that it shall be an M-day force, immediately ready upon the outbreak of war to execute its mission of defense. Some of the reasons for this concept are:

a. Much time is required to train its personnel.

b. Even more time is required to construct bases and to build its airplanes and corollary equipment.

c. Airplanes are fragile. In storage they deteriorate in physical structure and become obsolete even more rapidly than in use. It is thus impracticable to create a war reserve of airplanes.

Equipment and Unit Training Needed.

An airplane without all of its equipment and a complete crew of trained men should not go to war. For example, a Bombardment Group of 44 modern airplanes, fully equipped, manned and trained, is of more value than several times this number of obsolescent types, partially equipped and manned by partially trained men.

It cannot be overemphasized that the object of all planning and training in the GHQ Air Force is to create a powerful, highly mobile striking force ready at all times for immediate action on M day. It has accordingly been decided that as new airplanes are received, one squadron or group at a time will be brought up to effective strength, rather than allot a few airplanes to each. It will thus be necessary for those units not selected to receive new airplanes to be patient and make the best of what they have. Unit rather than individual training will henceforth be stressed. For example, it is planned that the annual gunnery and bombing matches, to begin in the fall of 1936, will be in the nature of a competition between selected squadrons instead of between individuals.

Measures to Increase Mobility.

Combat squadrons have been skinned to the bone. The functions of service squadrons have been enlarged and station complements have been created, all with a view to increasing the mobility of the combat units. The creation of station complements has long been urged by Air Corps officers to permit the utilization of skilled enlisted men for their proper work on the line, in the shop and in the office. Station complements and service squadrons constitute a vital element of the great combat organization they are designed to serve. All commissioned and enlisted members of the service squadrons and station complements must realize that without them a mobile GHQ Air Force could not exist.

Enlisted Men.

The creation of the GHQ Air Force has caused a shortage of enlisted personnel at its various stations and an unsatisfactory distribution of grades and ratings. The Air Corps share of the forthcoming increase in the enlisted strength of the Army will partially relieve the shortage. Studies are being made to relieve the unequal distribution of grades and ratings, it being proposed to assign a high percentage of air mechanics rat-

ings to the combat squadrons and a consequently high percentage of specialist ratings to the service squadrons and station complements. In order to permit everyone to have an equal opportunity to follow the line of work he desires, recruits will normally be assigned to the station complement. Here during their processing period and subsequent service they can determine, within reasonable limits, as to whether they desire to take up office work, outdoor work, technical or combat work. As opportunity arises they will be available as replacements in service and combat squadrons.

Temporary Promotion.

To remedy a situation until recently existing in the Air Corps, under which officers performed duties calling for higher rank, the War Department placed in effect the temporary promotion system authorized by the Air Corps Act of 1926. This scheme, like many reorganizational features of the GHQ Air Force, is under service test. The policy of rotation of officers into and out of the GHQ Air Force, to foreign service, to the various establishments under the Chief of the Air Corps, to school duty, and to the War Department, Corps Area and Department Staffs will be continued. In this way, some officers now enjoying temporary rank will lose it when the nature of their assignment changes, and others not now possessing temporary rank will receive it.

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TRANSCONTINENTAL FERRY FLIGHTS

A six-plane flight to California on a ferry mission recently returned to Langley Field. Major C.V. Haynes was in command, and was accompanied by Captains H.W. Dorr, A.L. Harvey, C.G. Goodrich, Thomas Power and 1st Lieut. O.S. Picher. P-12C airplanes were ferried to March Field, where P-26A's were procured and ferried to Barksdale Field. At the last named field the flight procured P-12F's and proceeded to Langley Field.

One of the outstanding incidents of the flight was the forced landing of Captain Goodrich. When about 50 miles from Tucson, Arizona, he was forced to land in the mountains when his main tank refused to take. After rolling down a mountainside in a ball of what had previously been an airplane, he started walking. He emerged from the desert some hours later at Mescal, Arizona, with a skinned nose and a horned toad.

Langley Field welcomes home its first qualified and rated "Desert Rat." The horned toad is behaving admirably and upholding the honor of his flight companions in his Langley Field home.

The flight was held over at El Paso, Texas, for three days on account of weather.

A second flight to March Field was dedicated to disproving the theory that airplanes are the fastest means of transportation. Captains B.J. Peaslee, R.E. Wilson, Lieuts. S.O. Ross, B.E. Nelson and B.S. Harrell took eight days getting to March Field. They encountered headwinds all the way, some as high as 50 miles per hour, dust storms, fog and engine trouble. Eventually, however, all reached Selfridge Field and from there returned to Langley Field by transport.

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ADVANCED FLYING CLASS IN READINESS TO GRADUATE

Training for the present class of student officers and flying cadets at the Advanced Flying School, Kelly Field, Texas, is almost completed, and the graduation date has been set for June 22nd. The Chief of the Air Corps has been invited to make the graduation address to the students, and the News Letter Correspondent expresses the hope that the General will find time to attend the exercises.

On May 25th, the average flying time of each student of this class since he came to Kelly Field was 101 hours and 30 minutes, which leaves about 30 hours to go. All sections have completed their student maintenance air navigation flights except one-half of the Pursuit Section. These flights are usually made from Kelly Field to Fort Sill, Oklahoma; thence to El Paso, Texas, and return to Kelly Field. Different routes are followed by the various sections.

The present class began with five Regular Army officers, one foreign officer, and sixty-four flying cadets. These were divided into sections, as follows: Attack, 10 students; Bombardment, 22; Observation, 20; Pursuit, 18. With the exception of one flying cadet, who was killed in an airplane accident, all of this class will graduate.

The new class of students for the Advanced Flying School will arrive on July 1, 1935, and will consist of approximately the following: 33 Regular Army officers; 34 flying cadets, and 3 foreign officers, two of whom are 1st Lieutenants in the Turkish Army and one a 1st Lieutenant in the Mexican Army. These students will be divided into sections, as follows: Attack, 14; Bombardment, 22; Observation, 14; Pursuit, 20.

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The 20th Bomb. Squadron, Langley Field, recently visited the plant of the United Aircraft Corporation at Hartford, Conn.

Let us give the General Headquarters Air Force a year in which to make good! Having passed the first quarter of its one-year test period, some ideas can be formed as to whether this new scheme of organization is likely to survive, whether it is practicable and possesses sufficient merit to warrant its adoption permanently.

It must be admitted, however, that three months is hardly a sufficient period of time to warrant passing judgment on a new organization which had no precedent in this country. Possibly a year may not be sufficient time in which to arrive at any definite conclusion as to whether it fits in properly with our military organization.

To digress for a moment. Let us take the British Air Ministry as an example. Great Britain was the first nation to create a separate air force. The Air Ministry was organized during the World War under the stress of extreme necessity. It is true that considerable opposition was directed toward it by both Army and Navy leaders, but the many air raids over London and other English communities brought matters to a head. There was an outcry against the divided responsibility existing over the air forces of Great Britain and a demand for their unification which could not be disregarded. And now, despite the fact that the British Air Ministry is in its eighteenth year, one notices now and then rumblings of dissatisfaction and discontent and a demand for the old order of things.

It may be assumed, without any fear of contradiction, that the framers of the organization of the GHQ Air Force were not wholly satisfied in their own minds that it was a letter perfect organization. They realized no doubt that flaws therein would be discovered as time went on but, in all probability, they felt that these flaws would eventually be ironed out. It is quite likely that the thought that this new organization would be just feeling its way was a factor which led to the decision to give it a temporary status for the period of one year.

A military air organization is a complex problem at best. Aviation has revolutionized warfare. Prior to the World War, there were no military air tactics to speak of. These tactics were evolved and developed in the years during and following the War. There is this difference in the situation confronting military aviation which can be hardly claimed to exist to any appreciable extent in other branches of a military establishment. Aviation is subject to constant change. Other combat weapons are subject to change also, but it is generally a gradual one. Aviation is always confronted with the possibility that the modern airplane of to-day may be obsolete in a few weeks. The statement is often heard or seen in print that aviation is still in its infancy. In the light of the startling achievements in aviation in recent years, there seems to be considerable truth in that statement. Take, for instance, one example in air tactics,- Pursuit versus Bombardment. Not so long ago the Pursuit airplane flew circles around the then lumbering Bomber. But what a change has taken place! The Bomber can no longer be placed in the "slow freight" class,and it is almost a match in speed for the fast little Pursuiter. What is the result? Air strategists are now scratching their heads to evolve new tactics to keep the bomber in its proper place or,perhaps, they are commencing to feel dubious as to the future of Pursuit aviation.

What are the views of the civilian, the layman, on the organization of the G.H.Q. Air Force? They are deeply interested in aviation, because it presents to them a popular appeal. Aviation has been constantly in the public eye ever since the Wright Brothers made their first flights at Kitty Hawk, N.C., 32 years ago.

When this country entered the World War, and an immense appropriation was made by Congress for aviation, there were fanciful cartoons in the newspapers depicting American airplanes darkening the skies over the enemy country. But our people soon learned that an aviation industry which did not exist can not be built up overnight, as it were; that it takes time to build airplanes as well as to train pilots.

Following the close of the War, the impetus which aviation received as the outcome of that conflict directed the genius of man toward making bigger,better and faster airplanes. As the years went on, the airplane not only became increasingly reliable, but progressed quickly in speed, range and load-carrying capacity. It began to dawn upon military men and civilians alike that the airplane was destined to play a very prominent role in wars to come; that aviation would revolutionize future conflicts between nations; that a nation weak in air power could hardly hope to cope successfully in a struggle with an

enemy well fortified in that respect.

Why the GHQ Air Force? The American citizen no doubt feels that the military authorities of this nation, alive to the potentiality of the airplane as a combat weapon, have taken steps to solidify the Army Air Corps into an organization lending itself to extreme mobility and the utilization of its striking power to the utmost.

Opinions gathered from civilians touching on the creation of the GHQ Air Force lead to the conclusion that they believe its basic purpose is sound, namely, that ease and rapidity of concentration at any given locality in this country are salient points which make the scheme well worth while.

Civilians - feature writers and others who have written books on military aviation - appear to be convinced that the air arm will figure most conspicuously in future wars, particularly in the initial stages thereof. They quote the old axiom that he who strikes the first blow is more apt to be the victor; they contend that aviation is an offensive arm and they have applied to aviation the theory held by some football coaches to the effect that the best form of defense is offense.

As an offensive arm, they believe that aviation must have perfect teamwork, and that air personnel must be trained to maximum efficiency; that an air force must possess the ability to strike instantly and effectively. They have reached the conclusion that the primary mission of an air force is to keep the enemy out of the air; that aircraft is the best defense against aerial attack; and that failure to defeat the enemy air force renders the defending nation powerless to ward off attacks from the air. They have visualized the consequences following such failure to check enemy aerial aggression. Writers have painted word pictures of these consequences in a manner to cause serious thought and considerable uneasiness. Some writers have painted lurid pictures of the havoc which would be wrought upon civilian populations were the enemy to acquire supremacy of the air and proceed unmolested in its work of dealing death and destruction through aerial bombs and poisonous chemicals.

Statements have appeared in the European press expressing the thought that little or no faith can be placed in the ability of an air force successfully to defend a nation against aerial attack, the contention being that space is so vast that attempts to intercept enemy aircraft would meet with little or no success, particularly in night operations. As a solution to the problem the policy of retaliation is advocated. To the lay mind this would lead to the conclusion that the Bombing airplane is destined to be the reigning type, thus placing other types of combat airplanes in the supporting class.

American citizens who have given serious thought to this question, believe that such a policy of retaliation, while possibly applicable in Europe, where powerful nations border upon one another, could hardly be accepted in this country, bounded as it is by two wide oceans. There appears to be no intention on their part to discount in any way the present or future range of aircraft, but they can hardly conceive the idea that this country, if subjected to enemy air attack, would hazard sending its airplanes across these vast stretches of water on a mission of retaliation. Thus, they are of the firm belief that effective air defense for the United States hinges on the ability of its air force to keep the enemy out of the air over our own territory, as before stated.

Statements have been frequently noted to the effect that the pilots in the U. S. Army are the best trained in the world. No one appears to have contradicted this. It has also been stated that what the Army Air Corps lacks in quantity it makes up partly in quality. Those who have taken up the aviation question seriously shake their heads in doubt, being alive to the realization that a nation cannot rest secure under such a state of affairs; that a skeleton air force, even though the airplanes are the most modern in the world and the pilots most efficiently trained, is a mighty slender reed upon which to lean.

Whether the GHQ Air Force will become a fixture in our National Defense scheme or whether the American air arm will assume some other form of organization does not seem to concern the lay mind as much as the one word which places the whole situation in a nut shell - RESULTS! The layman believes that, regardless of the form of administration under which the American air force will eventually operate, the all-important essential in our effort to promote national defense is to have the proper kind and the necessary amount of tools with which to work - airplanes and pilots. He has read the oft reiterated statements to the effect that the GHQ Air Force has not the requisite number of airplanes to enable it to function properly, and he likens this situation to that of a liner without propellers or a battleship without guns.

A QUESTION OF PAY FOR OFFICERS TEMPORARILY PROMOTED

Upon the organization of the GHQ Air Force, a Captain of the Air Corps was temporarily promoted to the rank of lieutenant-colonel. This officer enlisted in the Aviation Section, Signal Corps, during the World War; completed his flying training; received appointment as 1st Lieutenant; was subsequently promoted to Captain and, on July 1, 1920, was appointed Captain in the Air Service, Regular Army.

At the end of March, 1935, the officer submitted a voucher, constituting his claim for the difference between the pay of the fourth period and fifth period, from March 2 to 31, while assigned to duty under his temporary increased rank under the provisions of Section 3 of the Act of July 2, 1926, 44 Stat. 782.

Uncertain as to whether he had the authority to make payment on this claim, the Finance Officer of the post referred the matter to the Comptroller General of the United States for decision.

The Comptroller General, after citing Section 3 of the Act above referred to, which authorizes the Secretary of War to assign officers of the Air Corps to various commands and other duties carrying therewith increased rank, including pay and allowances appropriate to such rank, and Circular No. 7, War Department, January 25, 1935, prescribing regulations governing the bestowal of temporary rank for Air Corps officers, also cited Section 1 of the Act of June 10, 1922, 42 Stat. 625, providing:

"The pay of the fifth period shall be paid to * * * lieutenant colonels of the Army * * * who have completed twenty years' service, or whose first appointment in the permanent service was in a grade above that corresponding to captain in the Army, or who were appointed to the Regular Army under the provisions of the first sentence of said Section 24; Act of June 3, 1916, as amended by the Act of June 4, 1920 * * * .

"The pay of the fourth period shall be paid to lieutenant colonels of the Army * * * who are not entitled to the pay of the fifth or sixth period. *** "

The first sentence of Sec. 24, Act of June 3, 1916, as amended by the Act of June 4, 1920, is as follows:

"Sec. 24. Filling of vacancies. -Not less than one-half of the total number of vacancies caused by this Act, exclusive of those in the Medical Department and among chaplains, shall be filled by the appointment, to date from July 1, 1920, and subject to such examination as the President may prescribe, of persons other than officers of the Regular Army who served as officers of the United States Army at any time between April 6, 1917, and the date of the passage of this Act."

The Comptroller General goes on to say: "The act of July 2, 1926, cited, provides that the assignment by the Secretary of War of officers of the Air Corps to flying commands shall carry temporary rank 'including pay and allowances appropriate to such rank.' The regulations fix the rank for the duties assigned in this case as lieutenant colonel. The base pay of lieutenant colonel may be in any one of three pay periods, not based on any standard of efficiency, but by reason of length of service or circumstances of entering the service. An officer holding the rank of lieutenant colonel is entitled to base pay of the sixth period if he has completed thirty years' service; to pay of the fifth period (1) if he has completed twenty years' service, (2) if his first appointment in the permanent service was in a grade above that corresponding to captain in the Army, or (3) if appointed to the Regular Army under the provisions of the first sentence of section 24 of the National Defense Act; and to pay of the fourth period if not within the conditions prescribed for the fifth or sixth period. The service record of this officer shows that his first appointment in the Regular Army was in the grade of captain and that he has completed less than 20 years' service. It would appear, however, that he was appointed to the Regular Army under the provisions of the first sentence of section 24 of the National Defense Act. Such statute provided that not less than one-half of the total number of vacancies created thereby should be filled, subject to such examination as the President may prescribe by persons other than officers of the Regular Army who served as officers of the United States during the World War. While claimant's original appointment was in the rank of captain, it nevertheless, was made under the provisions of section 24 of the cited act, and the placing of lieutenant colonels who entered the Regular Army in that manner, in the fifth period without regard to length of service, would appear to have as its purpose the placing of him more nearly on a parity with officers of the regular service who normally would benefit by reason of a longer period of service. See House Report 926, part 2, 67th Congress, 2nd Session, pages 7 and 8. There appears nothing which would limit the application of this exception to officers originally appointed in the rank of lieutenant colonel. Indeed, if it were applicable only to officers who were appointed to the Regular Army under the first sentence of section 24 of the National Defense Act, as amended, June 4, 1920, in the rank of lieutenant colonel the provision would be superfluous as the officer would have been appointed

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to the regular Army as a lieutenant colonel - a grade above that of captain- and he would be entitled to fifth period pay under that exception. The provision therefore is clearly applicable to officers who entered the service in a lower rank and were thereafter advanced pursuant to law to the rank of lieutenant colonel. Accordingly, you are advised that claimant's rank and service shows him to be entitled to pay of the fifth period, and payment is authorized on the voucher returned herewith, if otherwise correct."

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EFFICIENCY RATINGS OF AIR CORPS OFFICERS

A comparative study recently made showing the percentages of officers rated as Superior, Excellent, Average and Below Average in the various branches of the Army shows that the Air Corps had the smallest percentage of any branch in the "Superior" and "Excellent" categories, and by far the largest percentage of Average officers. The implications of this comparison are obvious. Air Corps officers have evidently rated on a basis of a much broader knowledge of the whole personnel of the Air Corps than has been the case with rating officers of other branches. This is easily understood, due to the fact that by means of cross-country flying and frequent assemblies of Air Corps officers from many different stations, Air Corps officers in general are very well acquainted with the accomplishments of a large number of the officers of their branch.

That the Air Corps ratings have been more nearly in accord with the theory of the rating system is shown by the fact that for the other branches considerably more than 50% of the total number of officers were rated either "Excellent" or "Superior." This lends point to the expression frequently heard in connection with rating, "What constitutes an Average officer?"

There are at least two important respects in which the rating of Air Corps officers is working out unfortunately. First, in comparing Air Corps officers with officers of other branches for general details, the Air Corps officer is at a disadvantage. In the second place, officers are not considered eligible for Special Service Schools of the Air Corps. This is due to the fact that the Air Corps has adopted the policy of other branches with a more liberal rating experience and requires that an Air Corps officer to be eligible for the Tactical School must have a rating of above Average.

This latter objection can, of course, be met by changing the policy with respect to the admission of Air Corps officers to the Special Service Schools. However, the former disadvantage cannot be cured by any other method than a more liberal attitude on the part of rating officers. It is true, on the other hand, that this disadvantage is more apparent than real, as there are relatively few Air Corps officers being considered along with officers of other branches for details outside the Air Corps.

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GOVERNMENT OF SAN SALVADOR PLEASED WITH VISIT OF ARMY AIRMEN

A squadron of two Bombing and seven Observation planes from France Field, Panama Canal Zone, under the command of Lieut.-Colonel Lewis H. Brereton, Air Corps, recently visited San Salvador, Republic of Salvador, and were favorably received by the officials of the Republic and others. The visiting Army airmen attended a number of social functions given in their honor, one of them being a reception at the Presidential Palace, where the President of the Republic received them with his entire cabinet and sub-cabinet. There were also present about 50 Salvadoran officers, two from each regiment. All of these social functions were attended by the Salvadoran Minister of War and other high officials of the government.

In a letter to the Secretary of State reporting upon the visit of the Army airmen, the Hon. Frank P. Corrigan, American Minister to Salvador, comments most favorably on their conduct during their stay, stating that their behavior has been creditable and that they have made a highly favorable impression on the Salvadoran officials and the people with whom they have come in contact. He concludes his letter as follows:

"I believe that that this visit has been favorably received here. Colonel Brereton, through the President and the Minister of War, has invited the Salvadoran Air Force to visit France Field on a return visit of courtesy. The Minister of War accepted and said that he would at a convenient time send a squadron of five Salvadoran airplanes to France Field. A splendid impression was created in governmental circles by this visit, and much credit is due to Colonel Brereton and the officers who comprised the detail.

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A very interesting radio test, utilizing both code and voice, was recently conducted by Lieut. G.I. Rhoades, Air Res., Barksdale Field, La. Report on this test will no doubt be issued to the service.

ATMOSPHERE STERILE AT HIGH ALTITUDE

For the first time in aviation history a test was conducted at an altitude above 20,000 feet to determine whether any bacteria are present in the upper air regions. The highest altitude reached was 28,000 feet. Cultures had never before been taken at this height, and in that sense the flight constituted a record.

A Baltimore physicial engaged in bacteriological research work received the approval of the War Department to make a flight in a Martin Bomber to conduct this test. He exposed a total of 12 plates in the rarefied atmosphere, the first one at 19,000 feet and the others at intervals of 1,000 feet until 28,000 feet was reached. Two plates were exposed between 26,000 and 27,000 feet. Ten of the plates showed no presence of bacteria. One plate exposed at 24,000 and another at 26,000 feet each showed one colony of Staphylococcus, surely a contamination.

In his letter of appreciation to the Chief of Staff, in which he embodied a report on the results of this bacteriological test, the physician stated that the difficulty he encountered and which interfered very materially with carrying out the technique was the extreme cold. It was necessary for him to wear a pair of sterile, thin rubber gloves and to open and expose the plates to fresh and uncontaminated air outside of the plane. This necessitated putting both hands through the machine gunner's opening, unprotected from a high wind and cold. It was planned to expose the plates for one minute, but it was not possible to hold them longer than half a minute. Two of his fingers were rather severely frost-bitten. He states he began using oxygen at 21,000 feet and did not experience any embarrassement of respiration at any time.

"I do not think that the work was done with sufficient accuracy to claim the establishment of any new facts," the physician concluded, "but it surely indicates that the atmosphere above 20,000 feet is sterile."

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NEW WORLD'S RECORDS ESTABLISHED

The President of the Transcontinental and Western Air, Inc., Mr. Jack Frye, in a recent letter expressed the appreciation felt by his company for the aid and cooperation given by the Army Air Corps in supplying two-way radio communication between their DC-1 and Bolling Field, D.C. and Willoughby Spit, Norfolk, Va., during the closed course record flights on May 18th last.

As a result of these flights, 19 new American and International speed and load records were established by D.W. Tomlinson and Joseph Bartels. The DC-1 is a giant Douglas monoplane, powered with two 715 h.p. Wright "Cyclone" engines. At present this plane also holds the transcontinental transport speed record.

The two airmen flew 2,000 kilometers, or 1,244 miles, in 6 hours and 30 minutes and 34 seconds, or at an average speed of 190.906 miles an hour, carrying a pay load of 2,000 kilograms, which equals 4,410 pounds.

On the second lap of the triangular course from Floyd Bennett Field, Brooklyn, N.Y., to Bolling Field to Norfolk, and back to Floyd Bennett Field, a slightly better time was made than on the first lap, averaging 191.674 miles an hour. The course covered two laps.

When the plane was brought over Floyd Bennett Field at the end of the first lap of the 621-mile closed course, six new records had been established, the remaining 13 records being accomplished at the conclusion of the second lap.

It was the second record-breaking flight made by Tomlinson and Bartels within a week. Flying the same airplane on May 16th, they established 14 records over the same course. On the 18th, they smashed three existing world's records and nine American and five international marks they set previously. In addition, they established American records for which there had been no previous marks.

But to return to Mr. Fry's letter. After remarking that Captain Marriner in Washington was most helpful to TWA personnel in making the necessary arrangements, he goes on to say:

"The success of the whole undertaking hinged on the ability of the DC-1 crew to maintain uninterrupted two way radio telephone communication with the theodolite observers at each turning point. These flights made history in that for the first time a closed course was being flown at high altitude. Only because the flight crew could advise the observer on each approach to a turn of the plane's altitude and true bearing from the turning point was it possible for the observing party to pick up the plane, follow it through the theodolite telescope, and inform the pilot of the plane's angular elevation.

Communication with the Army station at Bolling Field and Willoughby Spit was perfect. Particularly on the 5,000 kilometer flight, when inclement weather caused abandonment of the last lap in favor of a short course around New York, the radio saved the day. Without the two-way radio facilities it would have been impossible for the crew of the plane to have advised the ground personnel of conditions and arranged for a change of the course.

Please express to all of your person-

nel who so kindly and efficiently rendered us this service the appreciation felt by the entire Transcontinental & Western Air organization.

Whenever you, or any of your officers, may find occasion to stop at Kansas City, I sincerely trust that you, or they, will give TWA an opportunity to express in a more concrete manner the debt of gratitude we feel toward the Army Air Corps."

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TWO CATERPILLAR DEGREES IN SHORT ORDER

Lee Gehlbach, a former 2nd Lieutenant in the Army Air Corps, who several years ago was stationed with the 1st Pursuit Group at Selfridge Field, Mich., seems to be the only member of the Caterpillar Club to have two degrees conferred upon him in rapid succession. An item in the June issue of U.S. AIR SERVICES with regard to Gehlbach's two initiations into the Caterpillar Club is as follows:

"Lee Gehlbach is a pilot who embodies just about all the characteristics that go to make what women writers of verse call a birdman, characteristics that make the real flyers of today a separate and distinct species of the human race. About two months ago, a man of Gehlbach's own stamina, courage and experience - Jimmy Collins - was killed when attempting to meet the Navy requirements for terminal velocity dive and pull-out while testing a Grumman airplane over Long Island. The plane was a total wreck, and it is understood that the manufacturers had no insurance on it. Gehlbach was hired to put a sister Grumman ship through its paces. While flying the plane in a spin test, starting at 12,500 feet altitude, Gehlbach found he could not get the plane to come out of it and, after making more than fifty spins, he was successful in saving his valuable neck and other parts by taking to his parachute at 2,000 feet, over the Navy proving ground at Dahlgren, Va., on Friday afternoon, May 17th.

Just before going to Virginia, Gehlbach stopped over at Cleveland, Ohio, to put a Great Lakes plane through the tests required by the Navy before it could be delivered. The details of the two tests were wholly dissimilar, but the final results of the operations, from the personal viewpoint of the pilot, were not unlike. In each case he survived by a hair's breadth. In each case he took to his parachute at the last possible foot of altitude, and the plane was wrecked. In each case, Gehlbach stayed with the plane - first with the Great Lakes product, then with the Grumman - until there was nothing to do except jump for his life."

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WORLD FLIGHT LEADER COMES TO WASHINGTON

Captain Lowell H. Smith, Air Corps, who led the historic flight of U.S. Army aviators around the world in 1924, has been ordered to duty in the Office of the Chief of the Air Corps, Washington, D.C. Captain Smith is at present a student at the Command and General Staff School, Fort Leavenworth, Kansas. In his new assignment he will have charge of the technical inspection of all the aircraft in the Army, being assisted by four regional supervisors and a corps of inspectors at Air Corps depots.

Of the Army officers who completed the first aerial journey around the world in 1924, Captain Smith is the only one remaining in the military service, the others having resigned from the Army. For his achievement of the flight, Captain Smith was awarded the Distinguished Service Medal. He also holds the Distinguished Flying Cross. He is a graduate of the Air Corps Tactical School and is a member of this year's graduating class of the Command and General Staff School.

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"COYOTE" AERIAL GUNNERY

By the News Letter Correspondent

Englishmen have their fox hunts, but they haven't enjoyed nuthin' unless they have participated in "coyote" aerial gunnery.

"Coyote" aerial gunnery is the discovery of the 41st Division Aviation, Washington National Guard, Spokane. Necessary to this highly entertaining form of gunnery training are the wide open spaces in certain sections of the sagebrush-covered northwest in which the grey bushy tail and slim-nosed coyotes roam.

This form of training has been found highly beneficial to officers of the 41st Division Aviation in preparing for their fire for aerial gunnery records during the two weeks' encampment of the 41st Division in June at Fort Lewis and Camp Murray, American Lake.

Flying reasonably low over the sagebrush plains, it is not difficult to "jump up" a coyote who, as he races through the sagebrush, becomes a lively observation target for observers and pilots. Flying down on the coyote, the pilots are given good training in ground gunnery with the camera guns. As the roar of the motor grows louder the coyote doubles his speed, until it appears he believes the airplane is on his back. At this time the "chicken stealer" rares up, shows his fangs and immediately begins turning in various directions until the plane is pulled up.

Contrary to the general belief, it is almost impossible to run a coyote to death with an airplane, because after each dive the coyote is smart enough to rest as he dog-trots along.

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"THE G.H.Q. WHAT WILL IT DO?"
By
B. Q. Jones, Major, Air Corps.

NEGLECTING for the moment the problem of close support of the ground forces, there remains the encompassing speculation of the national concept of Air Force employment.

Give a man a gun with no target and he will probably wonder what he will do with the gun. Give a man one target and he will know definitely one use for his gun. But if you give guns to feudist neighbors, no doubt exists as to the prime use of the guns.

Europe with one-fifth the area, a population density almost eight to one of the U.S. and divided among four major nations, provides the Air Forces of England, France, Germany and Italy with definite targets within "local flying" distances of their airdromes. These age old feudists have armed themselves with a new weapon, bombardment aviation, primed for use against each other's homes and territories.

We have no suspicious neighbors. We have no hereditary foes. We have no use for our military except as the trusted weapon of a good citizen of the family of nations to be brought out in national emergencies imposed upon us by the slow evolution of domestic and international affairs.

The geographical position and congestion of European nations fixes their Air Force employment. Their peace time air base locations are suitable for war base operations against innumerable profitable war time targets. There exists no need for Air Force mobility by self-sufficient units operating in many theaters over wide territorial expanses from varied, scattered and hastily prepared airdromes. Their employment is static. They must "dig in" in peace to be secure in war. Their problems of movement, communications and supply can be solved in peace. Their strategic and logistic plans can be consummated at leisure and projected to completion long before the period of strained relations.

Our national temper is but a composite of our typical square-shooting American business man, whose all consuming, earnest attention to the progress of his affairs blinds him to the threat of gangdom. His old family revolver, hidden from his children in a remote top drawer, will protect him, he feels, should his home be invaded.

We, the armed services, are America's good old trusted revolver, laid away in peace, but always guarded and protected from too rigorous inroads by radicalism. The great American citizen is, in his spare time, sufficiently interested in us to bring us out to view occasionally and polish us up a bit. And when he needs us, he is most unsparing in his attention and support.

In opposition to Europe, we have no belligerent neighbors. And, if we ever did have trouble with them, we would most assuredly hang back on the employment of any weapon that might jeopardize the lives and beings of their defenseless women and children. America doesn't wage war that way. So here we are, all dressed up with the beginnings of a most promising Air Force and quite uncertain in our minds what we'll do with it.

We're quite fed up with any thought of fighting other people's wars, so we cannot project ourselves into a European conception of employment of Air Forces. We have no proximate targets for our bombardment, so we conjure visions of cooperating with our Navy in sinking hostile navies approaching our shores. But, like true Americans, our Navy staunchly asserts they will hold our enemies well off our shores. With our Air Force in being, our second line of coast defense is our bombers; our third line, our seacoast defenses; our final defense, our army in being.

Our concept of employment of G.H.Q. Air Forces must be our own. We can be attentive to and profit by foreign developments in the technique of equipment and employment. We can most assuredly profit by their developments in communications, intelligence nets and warning systems, for communications are as vital to us as to them.

Granting that we lack the concreteness of European doctrines, we can appraise the fundamentals of Air Force as a weapon of war and adapt them to the peculiarities of our national temperament and geography.

Offensively, the airplane can be a terrible weapon, but we shrink from the concept of its general employment against area targets and their defenseless populations. Specific military targets will be presented to test the metal of our units, especially if the targets are defended.

Defensively, air forces are as vital to the success of the general operations as artillery is to the defense of a position.

Our geographical expanse, measured by European standards, is staggering. Our population centers and critical areas are distributed as spotted focii at considerable intervals. Our areas are large, our forces are small. We must cover a lot with a little.

We know a lot and we have learned a

lot about combat aviation. But if we are to be consistent, we must show progress in the art of military aviation commensurate with our claims of rapid change and progress in the powers of the airplane and its equipment.

We know what we can do. We can state our problem. We can prescribe our training. Their synthesis tells us what the G.H.Q. will do.

We in the Air Corps know pretty definitely what our attack, bombardment, observation and pursuit can do. We know how they can be trained to work together, when they can operate to best advantage and when they cannot. Other considerations being equal, we know that to the leader who most intelligently and ably treats logistics goes the greatest success.

What is our problem?

While we cannot, like the Europeans, point indisputably to concrete targets, we can name the targets we can profitably attack. Our operations, therefore, will be broad and versatile.

Our theater is far flung, extending literally thousands of miles. No conceivable peace strength can provide adequately for all localities. We must be prepared to operate here today and there tomorrow. Mobility in its purest form is tantamount.

Divorced as the ground forces are of all but observation aviation, we must be prepared to render close tactical support to any theater on short notice, only perhaps, to be pulled out unexpectedly for a strategic blow in another and distant theater. Mobility! Versatility! and Strategic Employment! A true GHQ reserve! A "Hat in the Ring" Force fighting in a squared-circle of continental proportions.

A veritable air Navy! In garrison for rest periods, reequipment and for indoctrination and training of new personnel. Then out and over the U. S. as individuals, units and as an Air Force perfecting the technique of movement, operations, communications and supply through a succession of exercises, alone and in cooperation with the ground forces in varied and scattered theaters within our continental limits.

So, what are our Air Force missions?

To move anywhere at any time.

To maintain shelter and subsist itself.

To afford close tactical support to the army.

To afford shore-based support to the Navy.

To defend our critical areas.

To search out and attack profitable targets.

Like our Navy, what we lack at the zero hour, we'll lack for months.

OUR G.H.Q. MUST COME THRU!!!

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HIGH ALTITUDE FLYING BY WASHINGTON NATIONAL GUARD AIRMEN

Officers of the 41st Division Aviation, Washington National Guard, Felts Field, Spokane, are believed to have just completed a flying record superior to any other National Guard squadron in the country.

On June 10th, the squadron pilots completed flying the "weather hops" for the Department of Agriculture, after having started making these flights on July 19, 1934, during which time only 16 cancellations were made.

The flights, which averaged 16,000 feet altitude, were made voluntarily by the pilots, and without pay. During practically the entire time, the pilots took off about midnight, and landed about 80 minutes later. The total flying time was about 455 hours, 15 minutes.

The airplane used was a Douglas O-38E, equipped with an SCR-134 radio set, which made possible cloud and blind flying training. In every instance, except one, the pilots found it possible to return to Felts Field. In the exception, a storm blew in on Felts Field, making it necessary for the weather ship to land at Pasco for an overnight stay.

Ten weather flights were called off on account of all airplanes being on cross-country flights to Tennessee and Florida. Three cancellations were made by the Weather Bureau due to a broken aerometeorograph instrument, and three other cancellations were made because of bad weather.

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The many friends of Mrs. Horace Meek Hickam will be interested in learning that she is now residing at Mitchel Field, Hempstead, L.I., N.Y. It was with especial gratification that Air Corps personnel read of the action of the War Department in naming the important new tactical Air Corps field in Oahu "Hickam Field," in honor of her deceased husband. Funds in the amount of ten million dollars have been made available for the construction of Hickam Field.

The Chief of the Air Corps is furnishing Mrs. Hickam with an engrossed copy of this War Department order, and with a copy of the proceedings of the Board of officers on the matter.

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The House of Representatives recently passed a measure to fill up the Air Corps to authorized strength by authorizing the President to commission graduates of the Air Corps Training Center.

BIOGRAPHIES

BRIGADIER-GENERAL FRANK M. ANDREWS

Brigadier-General Frank M. Andrews, Commanding General of the GHQ Air Force, was born in Hashville, Tenn., February 3, 1884. He graduated from the United States Military Academy in June, 1906, commissioned a second lieutenant and assigned to the 8th Cavalry. He also served as first lieutenant and captain with the 2nd and 18th Cavalry regiments prior to his detail in the Aviation Section, Signal Corps, in September, 1917. He accepted a commission as Major, Signal Corps (temp.) on September 22, 1917.

Following a period of duty, from September 26, 1917, to April 26, 1918, in the Air Division, Office of the Chief Signal Officer, Washington, D.C., he was assigned to the Flying School at Rockwell Field, San Diego, Calif., for duty as a student.

Completing his flying training in July, 1918, and receiving the rating of Junior Military Aviator on the 19th of that month, General Andrews was transferred to Arcadia, Florida, and placed in command of Carlstrom and Dorr Fields. In October, 1918, he was assigned to duty as District Supervisor of the Southeastern Air Service District. He was promoted Lieut.-Colonel, Signal Corps (temp.) February 8, 1918.

From March, 1919, to August, 1920, General Andrews was on duty in the Office of the Director of Air Service, Washington, D.C., where he served as Chief of the Inspection Division, as a member of the Advisory Board, and as a member of the War Plans Division of the General Staff.

Transferred to Germany for duty with the American Forces, General Andrews served as Executive Officer and as Officer in Charge of Civil Affairs until March 1, 1923, when he was returned to duty in the Office of the Chief of Air Service.

In June, 1923, General Andrews was transferred to Kelly Field, San Antonio, Texas, and served as Post Executive Officer until July 15, 1925. He was then appointed Commanding Officer of the 10th School Group. He also served as Assistant Commandant and Commandant of the Advanced Flying School at that station until September 1, 1927, when he was transferred to Langley Field, Va., for duty as student at the Air Corps Tactical School.

Following his graduation from the Tactical School in June, 1928, and from the Command and General Staff School, Fort Leavenworth, Kansas, in June, 1929, he was assigned to duty in the Office of the Chief of the Air Corps in Washington as Executive Officer of the Training and Operations Division. He was appointed Chief of that Division on January 7, 1930, and Executive, Office of the Chief of the Air Corps, on May 27, 1931.

He was promoted to Lieutenant-Colonel (permanent list) on January 13, 1930.

General Andrews received commendations for his excellent work as Chief of Staff of the Provisional Wing during the Field Exercises of the Air Corps in the State of California in 1930, and for the efficient manner in which he commanded a flight from San Antonio, Texas, to France Field, Panama Canal Zone, in 1932. He received a decoration from the Italian government for assisting the flight of the Italian Air Armada to the United States in 1933.

General Andrews graduated from the Army War College in 1933, and was ordered to Selfridge Field, Michigan, as Commanding Officer. On October 9, 1934, he was ordered to duty with the War Department General Staff.

In January, 1935, he was designated Commanding General, G.H.Q. Air Force, and he assumed command thereof with the temporary rank of Brigadier General on March 1, 1935.

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COLONEL HUGH J. KNERR, AIR CORPS

Colonel Hugh J. Knerr, Air Corps, Chief of Staff of the GHQ Air Force, was born at Fairfield, Iowa, May 30, 1887. After graduating from high school, he received an appointment to the United States Naval Academy, graduating therefrom in June, 1908. During the period of three years and four months he served as a commissioned officer in the Navy, he was on duty a portion of the time as Chief Engineer of the U.S. Destroyer FLUSSER. He was also a member of the U.S. Navy Rifle Team.

Transferred to the Coast Artillery Corps, U.S. Army, as a second lieutenant, on November 8, 1911, he was promoted 1st Lieutenant on July 1, 1916; Captain, May 15, 1917, and Major, January 15, 1918.

On August 2, 1917, Colonel Knerr was transferred at his own request to the Aviation Section of the Signal Corps, and was placed on duty as a student at the Aviation School at Rockwell Field, San Diego, Calif. Upon the completion of his flying training he was rated a Junior Military Aviator as of December 13, 1917.

From February to June, 1918, Colonel Knerr served at Park Field, Millington, Tenn., as Officer in Charge of Cross-Country and Acrobatic Flying, also as

Chief Engineer Officer. During June and July, 1918, he served as Chief Engineer Officer at Gerstner Field, Lake Charles, Louisiana.

Transferred to duty in Hawaii, he was assigned to the command of the 6th Aero Squadron and Luke Field, T.H. He also served as Department Air Service Officer and Disbursing Officer during his tour in that insular possession from August, 1918, to May of the following year.

Relieved from detail to the Air Service, Colonel Knerr returned to the Coast Artillery Corps and served at Fort Barrancas, Florida, until February, 1922, when he was re-detailed to the Air Service and assigned to pursue a refresher course in flying at the Primary Flying School at Carlstrom Field, Arcadia, Fla. Following his graduation from that school, he completed the course at the Advanced Flying School at Kelly Field, Texas, graduating December 18, 1922, and receiving the rating of "Airplane Pilot."

From February, 1923, to August, 1925, Colonel Knerr was on duty at the Fairfield, Ohio, Air Intermediate Depot as Commanding Officer of the 88th Observation Squadron. His next assignment was that of student officer at the Air Corps Tactical School at Langley Field, Va. He graduated from this School in June, 1926, and from the Command and General Staff School, Fort Leavenworth, Kansas, in June, 1927.

Colonel Knerr was assigned as Commanding Officer of the 2nd Bombardment Group at Langley Field, Va., on July 1, 1927. On several occasions he led this Group on long-distance cross-country flights, the most notable of which was the one to Los Angeles, Calif., and return in September, 1928. He also played a prominent part in Air Corps maneuvers held in different years during the period he was in command of the above-named organization.

Assigned as a student at the Army War College, Washington, D.C., in August, 1930, he graduated therefrom in June of the following year, and was then assigned to duty at the Materiel Division at Wright Field, Dayton, Ohio, as Chief of the Field Service Section, a position he occupied until his appointment on March 1, 1935, as Chief of Staff of the GHQ Air Force, with the temporary rank of Colonel.

During April and May, 1933, Colonel Knerr participated in the Antiaircraft - Army Air Corps Exercises in Ohio and adjoining States. He was a member of the Air Corps Expedition of ten B-10 Martin Bombers which flew from Washington, D.C. to Fairbanks, Alaska, and return, July - August, 1934. Colonel Knerr piloted one of the Bombers and was flight commander of the second of the three flights into which this Expedition to America's most northern possession was organized.

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WASHINGTON GUARDSMEN NOW RADIO EQUIPPED

All airplanes of the 41st Division Aviation, Washington National Guard, Felts Field, Spokane, are now equipped with two-way radio communication.

This was made possible by delivery of five new type sets, four of which are the SCR-AA-185 airplane sets, and one SCR-AA-146 ground station set. The airplane sets were installed in three O-38E's and one O-38, under the direction of 1st Lieut. Charles O. Holter, while the two old SCR-134 sets were installed in O-38B's.

The installation of the sets was completed at this writing and before the officers and men had received lectures on the operation of the new equipment.

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DR. AMES PRESENTED THE LANGLEY MEDAL

On May 21st, at the invitation of the regents and Secretary of the Smithsonian Institution, Brigadier-General A. W. Robins, Majors E.M. Powers, J.G. Taylor and Captain H.Z. Bogert, Air Corps, and Theodore dePort, aircraft engineer, were present at the presentation by the Chancellor, Chief Justice Hughes, of the Langley Medal for Aeronautics to Dr. Joseph S. Ames, Chairman of the National Advisory Committee for Aeronautics.

CONGRATULATIONS TO DEPARTMENT OF JUSTICE

The personnel of the Air Corps salute their brothers in arms in the Department of Justice and the various State and Municipal forces concerned for their splendid work against public enemies more insidious in their attacks than any foreign foe could be. The promptness with which two principals in the Weyerhaeuser abduction gang were run to earth and captured, and the third identified and closely pursued, reflects the greatest credit upon these splendid guardians of our homes and families.

We congratulate you - men of action! May every success attend your further efforts.

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A Civilian Conservation Corps worker, Robert Flylik, of Tyndall, S.D., suffering from double pneumonia, probably owes his live to the assistance of Captains Albert W. Stevens and Orvil A. Anderson, Air Corps, who interrupted their stratosphere flight preparations to send four cylinders of compressed oxygen to the Hot Springs Veterans' Administration Hospital in answer to the call of physicians for oxygen. After the patient received the oxygen treatment his temperature dropped and physicians said he was improving.

V-6800, A.C.

TEMPORARY PROMOTION OF AIR CORPS OFFICERS

To Major

Captain John E. Upston assigned as commander, Headquarters Squadron, GHQ Air Force, Langley Field, June 12, 1935.

Captain Charles P. Prime assigned as commander, 1st Bombardment Squadron, Mitchel Field, N.Y., June 7, 1935.

Captain Barney Giles assigned as Intelligence and Operations Officer, 2nd Bombardment Group, Langley Field, June 12, 1935.

To Captain

1st Lieut. Lilburn D. Fator assigned as Flight Commander, 2nd Obs. Squadron, Nichols Field, P.I., June 4, 1935.

To 1st Lieutenant

2nd Lieut. Thetus C. Odom assigned to command of 2nd Photo Section, Langley Field, Va. June 7, 1935.

OFFICERS RELIEVED FROM TEMPORARY RANK

Captain Milton J. Smith, from Brooks Field, Texas, July 5, 1935, to Schoen Field, Fort Benjamin Harrison, Ind.

Lieut.-Colonel Harold M. McClelland and Captain Donald D. FitzGerald, from Rockwell Field; Majors W.C. Morris and Ira C. Eaker, from March Field, July 26, 1935, to Air Corps Tactical School, Maxwell Field, Ala.

Captain Stewart W. Towle, Jr., from duty with 21st Obs. Squadron, Bolling Field D.C., June 5, 1935, to Office Chief of Air Corps.

Major Hugh C. Downey, from Mitchel Field, N.Y., June 26, 1935, to Air Corps Training Center, Randolph Field, Texas.

The following changes were made in the assignment of officers temporarily promoted, these officers retaining temporary rank:

Major Earle J. Carpenter from commander, 1st Bomb. Squadron, to Supply Officer, Station Complement, Mitchel Field, N.Y.

Captain August W. Kissner from 66th Service Squadron to Engineer and Armament Officer, 4th Composite Group, Nichols Field, P.I.

Captain George W. Mundy from 2nd Observation Squadron to Engineer Officer, 66th Service Squadron, Nichols Field, P.I.

CHANGES OF STATION: To Office of the Chief of Air Corps, Washington: Colonel Chalmers G. Hall, from duty with Organized Reserves, 2nd Corps Area, Newark, N.J. - Major Leslie MacDill, from Bolling Field, D.C. - Major Rosenham Beam from duty as Instructor, Cavalry School, Fort Riley, Kansas. - Captain Lowell H. Smith, upon completion of course of instruction at Command and General Staff School at Fort Leavenworth, Kansas.

To Langley Field, Va.: Captain John R. Druum from Kelly Field. - 2nd Lieuts. John E. Barr and Joseph B. Zimmerman from Philippines.

To Maxwell Field, Ala.: 1st Lieut. Marion Huggins, from duty with Flight B, 16th Obs. Squadron, Ft. Benning, Ga. - 1st Lieut. Clayton E. Hughes, 2nd Lieuts. John B. Ackerman and Edward J. Hale, from Advanced Flying School, Kelly Field. - Captain Peter E. Skanse, upon completion of course of instruction at Air Corps Tactical School. - Captain Levi L. Beery, Maxwell Field, for duty as student at Tactical School, that station.

To Randolph Field, Texas: Captain Mark R. Woodward from Langley Field to duty at Air Corps Training Center.

To Brooks Field, Texas: Captain John C. Kennedy, from Crissy Field, Calif.

To Bolling Field, D.C.: 1st Lieut. William A. Matheny. Previous orders revoked.

To Chanute Field, Ill.: 1st Lieut. John J. Keough, from Advanced Flying School, Kelly Field.

To Barksdale Field, La.: Captain LeRoy A. Walthall, from duty with Organized Reserves, 9th Corps Area, San Francisco, Calif.

To Scott Field, Ill.: 1st Lieut. Haynie McCormick, from Fort Sill, Okla.

To Fort Riley, Kansas: Major Howard J. Houghland, Langley Field, for duty as Instructor at Cavalry School.

To Chicago, Ill.: Captain Charles Douglas, from Tactical School, Maxwell Field, to duty as Instructor, A.C., Illinois National Guard.

To Los Angeles, Calif.: Captain Philip Schneeberger for duty as A.C. Procurement Planning Representative, Fourth Zone, from similar duty at San Francisco District.

To Hawaiian Department: Captain Charles E. Branshaw from A.C. Tactical School, Maxwell Field. - 1st Lieuts. Donald D. Arnold, Robert E.L. Pirtle and 2nd Lt. Daniel A. Cooper from Signal School, Fort Monmouth, N.J.

To Panama Canal Department: 1st Lieut. Frederick W. Ott and 2nd Lt. John A. Feagin, from Signal School, Fort Monmouth, N.J.

To Philippines: 1st Lieut. Edward H. Porter from Signal School, Fort Monmouth, N.J.

PROMOTION: To 1st Lieut., rank May 17, 1935 - 2nd Lieut. Thomas L. Thurlow.

RETIREMENT: 1st Lieut. Eyrle G. Johnson, May 31, 1935; 1st Lieut. Robert M. Kraft, May 31, 1935.

RELIEVED FROM DETAIL TO AIR CORPS: 2nd Lt. Eugene H. Cloud, to 25th Infantry, Fort Huachuca, Arizona.

TRANSFERRED TO AIR CORPS: 2nd Lieut. Lawrence B. Kelley, Field Artillery, rank from June 13, 1933.

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Master Sergeant Frank G. Bilker, 61st Service Squadron, Mitchel Field, N.Y., was appointed a Warrant Officer, Regular Army, June 1, 1935. He remains on duty at Mitchel Field.

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On June 11, 1935, Captain Cornelius W. Cousland, Air Corps, was relieved from assignment, duty and temporary rank with the Panama Air Depot, France Field, and ordered to report to the Commanding General, Panama Canal Department for duty with Air Corps and to Governor of Panama Canal for additional duty.

British Royal Air Force

The control of the Royal Air Force is vested in the Crown.

The Secretary of State for Air, the Marquess of Londonderry, is the head of the Air Ministry and President of the Air Council, and is charged with control over military aviation and over civil aviation through his Director-General of Civil Aviation. Military Aviation is separate and distinct from the Army and Navy, the Air Ministry holding a coordinate rank with Admiralty and the War Office.

There are no units actually allocated to the Army. The Army Cooperation Squadrons work with the Army on call.

The Fleet Air Arm is that part of the Royal Air Force allocated to the Navy. In general, the Fleet Air Arm is trained and controlled by the Royal Air Force when on land. When on ships or carriers, the units of the Fleet Air Arm are under naval control. Approximately 70% of the pilots and all observers in the Fleet Air Arm are drawn from naval personnel.

The Royal Air Force at present consists of:

Home Defense Force	43	Sqdns.
Army Cooperation Squadrons (home)	5	"
Flying Boat Squadrons (home)	5	"
Communications Squadrons (home)	1	"
Foreign Stations	24	"
Fleet Air Arm	16	"
Total - - - -	94	"

The Branches of the R.A.F. include the General Duties Branch, the Accounting, Medical, Legal and Chaplains Branches.

The General Duties Branch is the combat organization and consists of personnel (commissioned and enlisted) for combat duty. There are approximately 2700 pilots in the Royal Air Force, of which about 400 are enlisted pilots.

The Squadron is the basic tactical unit. Higher organization contemplates the Wing and Group. The Group consists of two or more Wings, and the Wing, two or more Squadrons. None of the higher organizations are at home at present, but in India there are one Group and three Wings.

A considerable expansion of the R.A.F. is contemplated for the near future to meet changed conditions in Europe.

France

The Air Ministry. The Air Forces are under the authority of the Air Minister. The Minister is advised by the Supreme Air Council and is assisted by the Inspector-General of the Air Forces, who is the Vice President of the Supreme Air Council; by the Chief of the General Air Staff, and by the heads of the various military Directorates of the Central Air Administration.

The Air Ministry has both a civil and military character. It includes: the Minister's Cabinet, the General Staff of the Air Forces, the Directorate of Air Materiel, the Directorate of Military Personnel, of Air Administration Audit, and of Construction.

The Air Army. The military aviation is called the "Air Army," and is divided into three categories; that operating directly under the Air Minister (about 1/5), that attached for work with the army (about 4/5) and the squadrons detached for service with the Navy.

Territorially, it is distributed among three air regions in France and a region in North Africa, with units detached for service in the colonies.

The formations include: Air Forces in the home country, in Northern Africa and the theatres of operation abroad and Colonial Aviation.

Troops:

Aviation - a varying number of squadrons, which are organized into groups, wings and brigades, attached in principle to an air base - mobilization centers.

Lighter-than-Air - a varying number of lighter-than-air companies organized into battalions and half brigades.

Strength - Officers, 2,127; men 29,800; materiel, approximately 3,500 planes of all types, combat, training, school, etc.

Italian Air Force

The air force comprises all the military air forces of Italy and her colonies.

The supreme authority responsible for the discipline and technical and administrative organization of the air units and establishments serving the general needs of the Royal Air Force is the Air Minister, who exercises his powers through his central organs, through the Chief of the Air Staff and through the commanders of the territorial air zones.

The Regia Aeronautica is organized into the Aeronautical Arm, Engineering Corps and the Commissiariat Corps.

The combat forces of the Regia Aeronautica, which includes all military aircraft, are as follows: Aerial Army, Aerial Units assigned to the Army, Aerial Units assigned to the Navy, and Colonial Aviation.

The basic tactical unit is a squadron, two or more of which form a wing; two or more wings, a group; two or more groups an aerial brigade; two or more brigades an aerial division; two or more divisions form the Aerial Fleet or Air Force.

The squadrons of each class of aviation in the Regia Aeronautica are as follows:

Pursuit	-	35 squadrons
Reconnaissance	-	38 squadrons
Bombardment	-	34 squadrons

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